



IFW16

RAW SEQUENCE LISTING

DATE: 09/14/2004

PATENT APPLICATION: US/09/890,752B

TIME: 09:46:49

Input Set : A:\107070-120.ST25.txt

Output Set: N:\CRF4\09142004\I890752B.raw

4 <110> APPLICANT: Hildt, Eberhard
 5 Hofschneider, Peter
 7 <120> TITLE OF INVENTION: Particles for Gene Therapy
 9 <130> FILE REFERENCE: 107070-120 (VOS-013)
 11 <140> CURRENT APPLICATION NUMBER: US 09/890,752B
 C--> 12 <141> CURRENT FILING DATE: 2001-11-30
 14 <150> PRIOR APPLICATION NUMBER: PCT/DE00/00363
 15 <151> PRIOR FILING DATE: 2000-02-04
 17 <150> PRIOR APPLICATION NUMBER: DE 199 04 800.2
 18 <151> PRIOR FILING DATE: 1999-02-05
 20 <160> NUMBER OF SEQ ID NOS: 21
 22 <170> SOFTWARE: PatentIn version 3.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 347
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Artificial Sequence
 29 <220> FEATURE:
 30 <223> OTHER INFORMATION: Fusion protein comprising a LHBs and heterologous binding
 31 site RGD
 33 <400> SEQUENCE: 1
 35 Met Gly Arg Gly Asp Gly Ala Gly Ala Phe Gly Leu Gly Phe Thr Pro
 36 1 5 10 15
 38 Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln Ala Gln Gly Ile Leu
 39 20 25 30
 41 Glu Thr Leu Pro Ala Asn Pro Pro Pro Ala Ser Thr Asn Arg Gln Ser
 42 35 40 45
 44 Gly Arg Gln Pro Thr Pro Leu Ser Pro Pro Leu Arg Asn Thr His Pro
 45 50 55 60
 47 Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His Gln Thr Leu Gln Asp
 48 65 70 75 80
 50 Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly Gly Ser Ser Ser Gly
 51 85 90 95
 53 Thr Val Asn Pro Val Pro Thr Thr Val Ser Pro Ile Ser Ser Ile Phe
 54 100 105 110
 56 Ser Arg Ile Gly Asp Pro Ala Leu Asn Met Glu Asn Ile Thr Ser Gly
 57 115 120 125
 59 Phe Leu Gly Pro Leu Leu Val Leu Gln Ala Gly Phe Phe Leu Leu Thr
 60 130 135 140
 62 Arg Ile Leu Thr Ile Pro Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu
 63 145 150 155 160
 65 Asn Phe Leu Gly Gly Thr Thr Val Cys Leu Gly Gln Asn Ser Gln Ser
 66 165 170 175
 68 Pro Thr Ser Asn His Ser Pro Thr Ser Cys Pro Pro Thr Cys Pro Gly



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69          180          185          190
71 Tyr Arg Trp Met Cys Leu Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu
72          195          200          205
74 Leu Leu Cys Leu Ile Phe Leu Leu Val Leu Leu Asp Tyr Gln Gly Met
75          210          215          220
77 Leu Pro Val Cys Pro Leu Ile Pro Gly Ser Ser Thr Thr Ser Thr Gly
78 225          230          235          240
80 Pro Cys Arg Thr Cys Thr Thr Pro Ala Gln Gly Thr Ser Met Tyr Pro
81          245          250          255
83 Ser Cys Cys Cys Thr Lys Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro
84          260          265          270
86 Ile Pro Ser Ser Trp Ala Phe Gly Lys Phe Leu Trp Glu Trp Ala Ser
87          275          280          285
89 Ala Arg Phe Ser Trp Leu Ser Leu Leu Val Pro Phe Val Gln Trp Phe
90          290          295          300
92 Val Gly Leu Ser Pro Thr Val Trp Leu Ser Val Ile Trp Met Met Trp
93 305          310          315          320
95 Tyr Trp Gly Pro Ser Leu Tyr Ser Ile Leu Ser Pro Phe Leu Pro Leu
96          325          330          335
98 Leu Pro Ile Phe Phe Cys Leu Trp Val Tyr Ile
99          340          345
103 <210> SEQ ID NO: 2
104 <211> LENGTH: 215
105 <212> TYPE: PRT
106 <213> ORGANISM: Artificial Sequence
108 <220> FEATURE:
109 <223> OTHER INFORMATION: Fusion protein comprising a HBcAg, a cell-permeability-
110      mediating polypeptide and heterologous binding site RGD
113 <400> SEQUENCE: 2
115 Met Pro Leu Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro Thr Val Gln
116 1          5          10          15
118 Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile Asp Pro
119          20          25          30
121 Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu Pro Ser
122          35          40          45
124 Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser Ala Leu
125          50          55          60
127 Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His His Thr
128 65          70          75          80
130 Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr Leu Ala
131          85          90          95
133 Thr Trp Val Gly Val Asn Leu Glu Asp Pro Glu Phe Arg Gly Asp Ala
134          100          105          110
136 Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
137          115          120          125
139 Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
140          130          135          140
142 Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
143 145          150          155          160

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145 Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
 146 165 170 175
 148 Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
 149 180 185 190
 151 Pro Ser Pro Arg Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
 152 195 200 205
 154 Gln Ser Arg Glu Pro Gln Cys
 155 210 215

160 <210> SEQ ID NO: 3

161 <211> LENGTH: 663

162 <212> TYPE: DNA

163 <213> ORGANISM: Artificial Sequence

165 <220> FEATURE:

166 <223> OTHER INFORMATION: DNA coding for a fusion protein comprising a HBcAg, a
 167 cell-permeability-mediating polypeptide and heterologous
 168 binding site RGD

170 <400> SEQUENCE: 3

171	atgcccatat	cgtcaatctt	ctcgaggatt	ggggaccctg	gatccactac	tgttcaagcc	60
173	tccaagctgt	gccttgggtg	gctttggggc	atggacatcg	acccttataa	agaatttgga	120
175	gctactgtgg	agttactctc	gtttttgcct	tctgacttct	ttccttcagt	acgagatctt	180
177	ctagataccg	cctcagctct	gtatcgggaa	gccttagagt	ctcctgagca	ttgttcacct	240
179	caccatactg	cactcaggca	agcaattctt	tgctgggggg	aactaatgac	tctagctacc	300
181	tgggtgggtg	ttaatttgga	agatccagaa	ttccgaggcg	acgcgtctag	agacctagta	360
183	gtcagttatg	tcaacactaa	tatgggccta	aagttcaggc	aactcttggt	gtttcacatt	420
185	tcttgtctca	cttttggaag	agaaaccgtt	atagagtatt	tggtgtcttt	cggagtgtgg	480
187	attcgacttc	ctccagctta	tagaccacca	aatgccccta	tcctatcaac	acttccggaa	540
189	actactgttg	ttagacgacg	aggcagggtc	cctagaagaa	gaactccctc	gcctcgcaga	600
191	cgaaggtctc	aatcgccgcg	tcgcagaaga	tctcaatctc	gggaacctca	atgttagtat	660
193	tcc						663

197 <210> SEQ ID NO: 4

198 <211> LENGTH: 1047

199 <212> TYPE: DNA

200 <213> ORGANISM: Artificial Sequence

202 <220> FEATURE:

203 <223> OTHER INFORMATION: DNA coding for a fusion protein comprising a LHBS and
 204 heterologous binding site RGD

206 <400> SEQUENCE: 4

207	atgggcccgtg	gcgaaggagc	tggagcattc	gggctggggt	tcaccccacc	gcacggaggc	60
209	cttttggggt	ggagccctca	ggctcagggc	atactacaaa	ctttgccagc	aaatccgcct	120
211	cctgcctcca	ccaatcgcca	gacaggaagg	cagcctacce	cgtgtctctc	acctttgaga	180
213	aacactcatc	ctcaggccat	gcagtggaat	tccacaacct	ttcaccaaac	tctgcaagat	240
215	cccagagtga	gaggcctgta	tttccctgct	ggtggctcca	gttcaggagc	agtaaaccct	300
217	gttccgacta	ctgcctctcc	cttatcgta	atcttctcga	ggattgggga	ccctgcgctg	360
219	aacatggaga	acatcacatc	aggattccta	ggaccccttc	tcgtgttaca	ggcgggggtt	420
221	ttcttggtga	caagaatcct	cacaataccg	cagagtctag	actcgtgggt	gacttctctc	480
223	aattttctag	ggggaactac	cgtgtgtctt	ggccaaaatt	cgcagtcccc	aacctccaat	540
225	cactcaccaa	cctcctgtcc	tccaacttgt	cctgggtatc	gctggatgtg	tctgcggcgt	600
227	tttatcatct	tctcttctat	cctgctgcta	tgctcatctt	tcttggttgt	tcttctggac	660
229	tatcaaggta	tgttgcccgt	ttgtcctcta	attccaggat	cctcaaccac	cagcacggga	720

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231 ccatgccgaa cctgcatgac tactgctcaa ggaacctcta tgtatccctc ctgttgctgt      780
233 accaaacctt cggacggaaa ttgcacctgt attcccatcc catcatcctg ggctttcgga      840
235 aaattcctat gggagtgggc ctcagcccgt ttctcctggc tcagtttact agtgccattt      900
237 gttcagtggg tcgtaggggt ttccccctact gtttggcttt cagttatatg gatgatgtgg      960
239 tattgggggc caagtctgta cagcatcttg agtccctttt taccgctgtt accaattttc     1020
241 ttttgtcttt gggatacat ttaaacc                                1047
244 <210> SEQ ID NO: 5
245 <211> LENGTH: 35
246 <212> TYPE: DNA
247 <213> ORGANISM: Artificial Sequence
249 <220> FEATURE:
250 <223> OTHER INFORMATION: Primer
252 <400> SEQUENCE: 5
253 ccatattctt gggaacaaga tatccagcac ggggc                                35
256 <210> SEQ ID NO: 6
257 <211> LENGTH: 33
258 <212> TYPE: DNA
259 <213> ORGANISM: Artificial Sequence
261 <220> FEATURE:
262 <223> OTHER INFORMATION: Primer
264 <400> SEQUENCE: 6
265 ggattgctgg tggaagatat ctgccccgtg ctg                                33
269 <210> SEQ ID NO: 7
270 <211> LENGTH: 33
271 <212> TYPE: DNA
272 <213> ORGANISM: Artificial Sequence
274 <220> FEATURE:
275 <223> OTHER INFORMATION: Primer
277 <400> SEQUENCE: 7
278 cagcacgggg cagatatctt ccaccagcaa tcc                                33
281 <210> SEQ ID NO: 8
282 <211> LENGTH: 38
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: Primer
289 <400> SEQUENCE: 8
290 gccccgtgct ggatatcatc ttgttcccaa gaatatgg                        38
293 <210> SEQ ID NO: 9
294 <211> LENGTH: 36
295 <212> TYPE: DNA
296 <213> ORGANISM: Artificial Sequence
298 <220> FEATURE:
299 <223> OTHER INFORMATION: Primer
301 <400> SEQUENCE: 9
302 aaaagatctg gccgtggcga aggagctgga gcattc                        36
305 <210> SEQ ID NO: 10
306 <211> LENGTH: 30
307 <212> TYPE: DNA

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308 <213> ORGANISM: Artificial Sequence
310 <220> FEATURE:
311 <223> OTHER INFORMATION: Primer
313 <400> SEQUENCE: 10
314 aaaagatctg gtttaaagt atacccaaag          30
317 <210> SEQ ID NO: 11
318 <211> LENGTH: 33
319 <212> TYPE: DNA
320 <213> ORGANISM: Artificial Sequence
322 <220> FEATURE:
323 <223> OTHER INFORMATION: Primer
325 <400> SEQUENCE: 11
326 cccgatatca tgcacatctt tgttcacgtc cta          33
329 <210> SEQ ID NO: 12
330 <211> LENGTH: 30
331 <212> TYPE: DNA
332 <213> ORGANISM: Artificial Sequence
334 <220> FEATURE:
335 <223> OTHER INFORMATION: Primer
337 <400> SEQUENCE: 12
338 ggggatatcg gtcacatgtc atgccccaaa          30
341 <210> SEQ ID NO: 13
342 <211> LENGTH: 36
343 <212> TYPE: DNA
344 <213> ORGANISM: Artificial Sequence
346 <220> FEATURE:
347 <223> OTHER INFORMATION: Primer
349 <400> SEQUENCE: 13
350 gggggatccc gatgtacggg ccagatatac gcgttg          36
353 <210> SEQ ID NO: 14
354 <211> LENGTH: 27
355 <212> TYPE: DNA
356 <213> ORGANISM: Artificial Sequence
359 <220> FEATURE:
360 <223> OTHER INFORMATION: Primer
362 <400> SEQUENCE: 14
363 gggggatccg cggccgcttt acttgta          27
366 <210> SEQ ID NO: 15
367 <211> LENGTH: 57
368 <212> TYPE: DNA
369 <213> ORGANISM: Artificial Sequence
371 <220> FEATURE:
372 <223> OTHER INFORMATION: DNA coding for a cell-permeability mediating peptide
374 <220> FEATURE:
375 <221> NAME/KEY: misc_feature
376 <222> LOCATION: (1)..(57)
377 <223> OTHER INFORMATION: Nucleotides 1-3 and 55-57 are "n" wherein "n" = any
nucleotide.
379 <400> SEQUENCE: 15
W--> 380 nnnagatcta tgcccatatc gtcaatcttc tcgaggattg gggaccctgg atccnnn          57

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/890,752B

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Input Set : A:\107070-120.ST25.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:15; N Pos. 1,2,3,55,56,57

Seq#:16; N Pos. 1,2,3

Seq#:17; N Pos. 1,2,3

Seq#:18; N Pos. 1,2,3

Seq#:19; N Pos. 1,2,3

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/890,752B

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Input Set : A:\107070-120.ST25.txt

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L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:380 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:414 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:431 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:449 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0